

many other embodiments, variations, and applications of the invention, or the several features thereof disclosed, may be made without departing from the spirit or scope of the invention as defined in the following claims.

I claim:

1. A system sensitive to the proximity of an extraneous object for controlling an external device, comprising an electrical circuit including an oscillator and a tank circuit for controlling the frequency of the oscillator, a shunt across said tank circuit, a probe in said shunt for sensing the proximity of the extraneous object, and a resistor in said shunt connected between said tank circuit and said probe, said probe changing the Q of the tank circuit in response to the proximity of the extraneous object to produce a change in amplitude in the output of said oscillator, and control means responsive to the said change in output amplitude to control the external device.

2. A system as defined in claim 1, wherein said probe is a capacitive probe, and wherein said oscillator includes a transistor, said tank circuit being connected between the emitter and base of said transistor, one side of said resistor being connected to the juncture between one side of said tank circuit and the input circuit to said base, the other side of said resistor being connected to said capacitive probe.

3. A system as defined in claim 1, wherein said probe includes a bi-metallic element proximate thereto for stabilizing the circuit against temperature fluctuations.

4. A system as defined in claim 1, wherein said resistor in said shunt is a thermally responsive resistor the resistance of which varies with temperature.

5. A system as defined in claim 2, wherein said transistor includes a thermally responsive resistor connected across the collector and base thereof.

6. A system as defined in claim 2, wherein said control means comprises a second transistor normally biased

to cut-off and effective to conduct upon the occurrence of said change in amplitude in the output of said oscillator.

7. A system as defined in claim 2, wherein said control means comprises a second transistor normally biased to conduct and effective to be cut-off upon the occurrence of said change in amplitude in the output of said oscillator.

8. A system as defined in claim 1, wherein said electrical circuit is disposed within a first sealed housing, the latter being disposed within a second sealed housing spaced from said first housing, said second housing being disposed within a third sealed housing spaced from said second housing.

9. A system as defined in claim 1, wherein said external device is a valve controlling a water tap and actuated to open upon detection of the proximity of the user's hand and to close when same is removed.

References Cited

UNITED STATES PATENTS

2,917,732	12/1959	Chase et al.	340—38 X
3,032,722	5/1962	Banasiewicz	331—10
3,067,364	12/1962	Rosso	317—148.5
3,129,415	4/1964	McKnight	340—258
3,199,096	8/1965	Bagno	340—258

FOREIGN PATENTS

668,374 3/1952 England.

OTHER REFERENCES

IBM Technical Disclosure Bulletin, vol. 6, No. 5, October 1963, pp. 24, 25.

Radio-Electronics, June 1950, p. 42, "Automatic Intercom Switch," by E. Aisberg.

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